Claims:

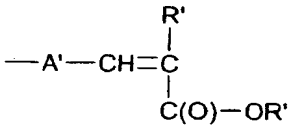
1. Composition comprising

a) at least one ethylenically unsaturated monomer to which a photochemically isomerizable or dimerizable molecule is covalently bonded,

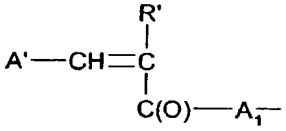
b) at least one ethylenically unsaturated monomer to which a sensitizer is covalently bonded, and

c) optionally other ethylenically unsaturated comonomers.

2. Composition according to Claim 1, characterized in that the photopolymerizable group corresponds to the formulae A and B



(A)



(B)

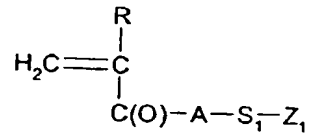
where

R' is hydrogen or C_1-C_4-alkyl,

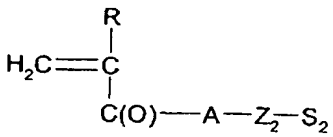
A' is an optionally substituted mono- or divalent aromatic radical or an optionally substituted mono- or divalent heteroaromatic radical, and

A_1 is a bridging group.

3. Composition according to Claim 1, characterized in that the monomers (a) correspond to the formula I or to the formula Ia



(I)



(Ia)

where

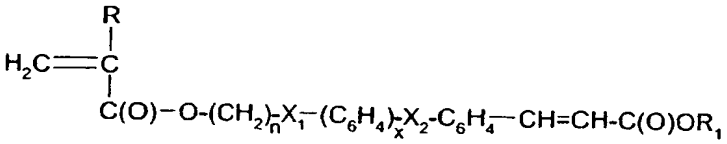
R is H or C_1-C_8-alkyl,

A is a bridging group,

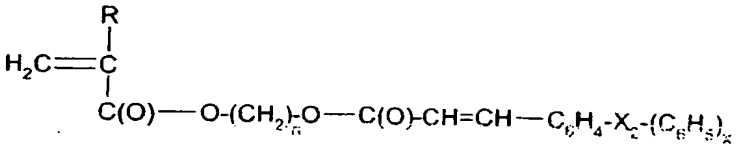
S_1 is an optionally substituted divalent and S_2 an optionally substituted monovalent aromatic or heteroaromatic radical, and

Z_1 is a monovalent and Z_2 a divalent radical of a molecule which isomerizes or dimerizes photochemically.

4. Composition according to Claim 1, characterized in that the monomers (a) correspond to the formula Id or to the formula Ie



(Id)



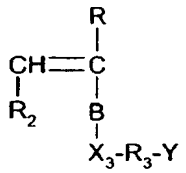
(Ie)

where
R is methyl,
n is a number from 2 to 20, preferably from 4 to 14,
R_1 is C_1-C_4-alkyl and preferably methyl,
x is 0 or 1,
X_2 is a direct bond, -O-, -S-, -CO-, -OC(O)- or -C(O)O-, and the C_6H_4 and C_6H_5 groups are each independently unsubstituted or substituted by 1 to 3 C_1-C_4-alkyl and/or C_1-C_4-alkoxy, preferably methoxy.

5. Composition according to Claim 1, characterized in that the monomers b) are selected from the group of acrylates, methacrylates, acrylamides, methacrylamides, maleic monoesters, and allyl or methallyl or crotonyl alcohol, to which a sensitizer is covalently bonded directly or via a bridging group in the ester or amide group or to the alcohol group.

6. Composition according to Claim 1, characterized in that the sensitizers are selected from the group of 2-hydroxyketones, coumarins, ketocoumarins, acetophenones, benzophenones, anthraquinones, xanthones, thioxanthones and acetophenone ketals.

7. Composition according to Claim 1, characterized in that the monomers b) correspond to the formula II



(II)

where

R is H or C_1-C_4-alkyl,

R_2 is H or -$COOR_7$,

R_3 is a direct bond or a bivalent bridging group,

B is methylene or -C(O)-,

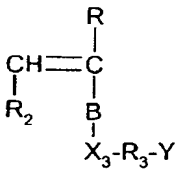
Y is the monovalent radical of a sensitizer,

X_3 is -O-, -NH- or -N(C_1-C_4-alkyl)-,

X_3 is -O- when B is methylene, and

R_7 is H, C_1-C_{20}-alkyl, C_3-C_{12}-cycloalkyl or phenyl-C_1-C_6-alkyl.

8. Composition according to Claim 1, characterized in that the monomers b) correspond to the formula IIa



(IIa)

where

R is H or methyl,

R_2 is H,

B is -C(O)-,

Y is the monovalent radical of a sensitizer,

X_3 is -O-, and

R_3 is a radical of the formula -$(R_4)_r$-X_4-$(R_5)_s$-

where

R_4 is C_1-C_{20}-alkylene, polyoxaethylene or polyoxapropylene having from 2 to 10 oxaalkylene units, C_5- or C_6-cycloalkylene, -cyclopentyl-C_nH_{2n}- and -cyclohexyl-C_nH_{2n}- where n is 1 or 2, cyclopentyl-(C_nH_{2n}-)$_2$ and cyclohexyl-(C_nH_{2n}-)$_2$ where n is 1 or 2, phenylene, benzylene, phenylethylene or xylylene,

R_5 is a direct bond or C_1-C_4-alkylene,

X_4 is a radical selected from the group of -O-, -S-, -NR_6-, -C(O)-O-, -O-C(O)-, -O-C(O)-O-,

$-SO_2-O-$, $-O-SO_2-$, $-O-SO_2-O$, $-NR_6-C(O)-$, $-C(O)-NR_6-$, $-NR_6-C(O)-O-$, $-O-C(O)-NR_6-$, $-NR_6-C(O)-NR_6-$, $-NR_6-SO_2-$, $-SO_2-NR_6-$, $-NR_6-SO_2-O-$, $-O-SO_2-NR_6-$ or $-NR_6-SO_2-NR_6$, and r is the number 1 and s is 0 or the number 1.

9. Composition according to Claim 1, characterized in that monomers (c) are selected from the group of ethene, propene, butene, pentene, styrene, vinyl chloride, vinylidene chloride, acrylonitrile, (meth)acrylonitrile, (meth)acrylamide, N-alkylated or N-hydroxyalkylated (meth)acrylamides, alkyl (meth)acrylates and hydroxyalkyl (meth)acrylates having 1 to 20 carbon atoms in the ester group, vinyl and allyl esters and vinyl and allyl ethers having 1 to 20 carbon atoms in the ester or ether groups, alkyl (meth)acrylates or vinyl and allyl ethers of polyoxaalkylene diols.

10. Composite material composed of a substrate and a thin layer of a polymerizable composition or of a copolymer of this composition, comprising

a) at least one ethylenically unsaturated monomer to which a photochemically isomerizable or dimerizable molecule is covalently bonded,

b) at least one ethylenically unsaturated monomer to which a sensitizer is covalently bonded, and

c) optionally other ethylenically unsaturated comonomers.

11. Composition comprising a photocrosslinked layer of the composition according to Claim 1 and a liquid-crystalline layer on said photocrosslinked layer.

12. Use of the a composition according to Claim 1 for producing alignment layers on a substrate material.